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Southern Right whale dolphins, *Lissodelphis peronii* off the Pacific coast of South America

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Abstract

Reviewed the distribution and movements of southern right whale dolphins (*Lissodelphis peronii*) off western South America. Data consist of 36 confirmed records from 1823 through 1990, almost half unpublished and including records of specimens taken incidentally in net fisheries, strandings and sightings which could be authenticated. Preliminary surveys suggest that *L. peronii* may be one of the most common cetaceans off northern Chile, where recently gill net entanglements have become alarmingly common. Mean group size was 368. Assessment of population density and fishery mortality is urgently needed. The normal habitat of right whale dolphins off South America appears strictly pelagic. Two specimens caught near Pucusana (12° 30′S), the second and third confirmed records for Peru, extend the known range north five degrees. North of 25 °S, more records were registered in July–September than in all other months combined, suggesting a northbound migration in austral winter and spring. Off Chile, between 25° and 40° S, right whale dolphins were seen year-round. Distribution extends to at least 170 km offshore north of 40° S and 250 km off the southern Chilean coast; south of Cape Horn it is circumpolar in the West Wind Drift.

Introduction

The southern right whale dolphin, *Lissodelphis peronii* (Lacépède, 1804) is a circumpolar, marginal Antarctic species that is largely found in temperate waters. Although there are a few records south of the Antarctic Convergence, most are more northerly, in and north of the West Wind Drift (Leatherwood and Reeves 1983; Brownell 1974). Over most of the species' known range, well-documented records are generally scarce; possible exceptions are: the SW Pacific, and in particular the New Zealand/Tasmania region, where sightings and strandings have been reported from about 53° S to 35° 30′S and have been associated with surface water temperatures from 9–17 °C (Fraser 1955; Gaskin 1968a, b; Brownell 1974; Baker 1981); the eastern South Atlantic, where twelve sightings have been reported from a localised area off the west coast of Namibia (Cruickshank and Brown 1981; Findlay 1989). Findlay (1989) suggested these might represent a resident population, associated with the Luderitz upwelling cell in the region. Finally, osteological remains of several tens of southern right whale dolphins were collected by Goodall (1978, 1989) on the coasts of Tierra del Fuego, in the western South Atlantic.

The distribution of right whale dolphins in the Southeast Pacific has been discussed in more or less detail by Fraser (1955), Brown (1973), Brownell (1974), Aguayo (1975) and Donoso-Barros (1975). The species' range was commonly summarized as "from Cape Horn to Arica [northern Chile]" but there actually were less than ten confirmed records for the entire eastern South Pacific. More recent general reviews on the distribution of small cetaceans off Chile and Peru could not add any new data (Sielfeld 1983; Cardenas et al. 1986; van Waerebeek et al. 1988; Majluf and Reyes 1989; Jefferson and Leatherwood 1990; Jefferson et al. 1991).

In the last few years the number of authenticated specimen and sighting records of southern right whale dolphins in the study area has increased rapidly. It coincided, not surprisingly, with the creation of several centers for cetacean research, e.g. the Santiago-based Red de Avistamiento de Cetáceos (RAC), the Centro de Investigación y Manejo de Mamíferos Marinos (CIMMA) at Valvidia, Chile, and the Centro Peruano de Estudios Cetológicos (CEPEC) at Pucusana, central Peru. In addition, the existing Grupo de Aves y Mamíferos Marinos of the University of Antofagasta, in northern Chile, expanded its research effort on marine mammals.

Published accounts of right whale dolphins from the west coast of South America are barely accessible in such sources as small local journals, conference proceedings and historical papers. The purpose of this paper is to compile and critically review published information while adding new records. Confirmed records are then examined for insight on seasonal movements, distribution centres, boundaries and habitats of right whale dolphins off western South America.

Material and methods

There are 36 confirmed records (20 published and 16 new) of southern right whale dolphins off the Pacific coast of South America, from the year 1823 until 1990, presented below. These include published records only if they offer some clear characterisation of the animal(s) as basis for identification. New accounts were accepted if authenticated by a specimen, a recognisable photograph or a drawing and clear description. For each new record, location of available voucher material is indicated.

Specimens reported from the last few years were found because of extensive beach combings and increased monitoring of fishing port terminals by many different people along coasts of Chile and Peru (e.g. Guerra et al. 1987; Brito and Reyes 1990; Oporto 1990; Torres et al. 1990; van Waerebeek and Reyes 1990). A few specimens collected on Chilean territory in eastern Magallanes, but thought to have originated from the South Atlantic, are not included. Record numbers correspond to those found in Fig. 1. Unless indicated otherwise, record localities are from Chile.

Results

1. Lesson and Garnot (1826) reported having seen right whale dolphins "several times" near Cabo Pillar (52° 43′ S, 74° 42′ W), at the western end of the Strait of Magellan, on their 1822–1825 voyage around the world. The authors failed to mention the exact dates, but from the context it can be deduced that the sightings probably were made in late summer.

2. A clear description of this species, referred to as "*Delphinus Peronii*", was presented by Bennett (1840) based on several specimens harpooned off South America, one of which measured six feet four inches (193 cm). The author commented on its distribution: "[Right Whale Porpoises] . . . were afterwards frequently seen during our passage round the Horn, and as high as 54°S; but we did not observe them in a lower latitude than 40°S, on the western side of Cape Horn, nur during any subsequent part of the voyage".

3. In their book "Voyage dans l'Amérique méridionale" (1847) d'Orbigny and Gervais (1847) gave the following account of the species under the name *Delphinapterus Peronii:* "We encountered them from 48° to 64°S, around Cape Horn. A harpooned individual permitted us to make a drawing with all its proportions carefully taken . . ." The meticulously figured specimen leaves no doubt about its identity. However, it is uncertain whether it was taken in the Atlantic or the Pacific Ocean. This record, therefore, should be regarded as incertae sedis.

4. Malm (1871), who referred to this species as *Delphinapterus Peronii,* reported on a 185 cm specimen of unspecified sex captured during the Eugenie Expedition at 49° 09′ S, 78° 50′ W on 15 February 1852. The nearly complete skeleton is reportedly at the National

Swedish Museum at Stockholm (originally) labeled "*Delphinus leucorhamphus* Less. Peron".

5. and 6. About 1000 southern right whale dolphins were sighted between 33° and 49°S during three cetacean surveys 25 March–23 December 1966 (Aguayo 1975). The two largest groups observed were about 500–600 at 33° 41′S, 73° 13′W on 3 April, and about 200 at 45° 14′S, 77° 37′W on 21 December. No additional data are presented for these or other sightings.

7. On 12 February 1968, fishermen of Caleta Higuerillas, Concón (32° 55′S), caught a female alive with a hook, half a mile off the coast. After it was examined and photographed the animal was released (Aguayo 1975).

8. From 15 May–6 July 1970, the R/V Hero cruised the southwest and central coasts of Chile and offshore to the Juan Fernández–San Ambrosio Islands for observations of marine mammals and birds. Gilmore (1971) reported *L. peronii* from "only near Golfo de Arauco" in June 1970. Although no description or voucher data are available, the authority of the source is considered convincing.

9. On 17 September 1970, at position 18° 53′S, 71° 43′W, a group of about 50 right whale dolphins travelling southwest was sighted from the SS Pizarro. Sea surface temperature was 17.9 °C (McLean 1971).

10. On 31 January 1970, a herd of about 20 dolphins was seen from the SS Pizarro at 29° 35′S, 71° 45′W. The animals were moving southward. The sea surface temperature was 18.3 °C (Thomas 1970).

11. Torres and Aguayo (1979) gave an account of a 200 cm male harpooned by swordfish fishermen some 10–12 miles off Papudo (32° 30′S) on 5 May 1975. Based on the animal's stomach contents, the authors suggested that the feeding strategy of the southern right whale dolphin may be epipelagic and nocturnal.

12. In February 1980, the carcass of a physically mature specimen of unknown sex was collected from the beach of Cachinales (25° 10′S). The complete skeleton (AMM-024) is at the Instituto de Investigaciones Oceanológicas, University of Antofagasta, in northern Chile (Guerra et al. 1987).

13. One of us (JLB) recovered a neonate (of unknown sex, possibly prematurely born) from the stomach of a 170 cm large Patagonian toothfish or "bacalao de profundidad", *Dissotichus eleginoides,* at the fish market of San Antonio (33° 35′S), central Chile, on 14 October 1983. The predatory toothfish had been caught in a deepsea hook-fishery two or three days earlier, some distance southwest of San Antonio. Although its skin had sloughed from gastric juices, the 86 cm, 5.1 kg, dolphin was otherwise complete. Drawings were made, but unfortunately, except for a few bones (JLBM-CE-8; San Antonio Museum), the specimen itself was lost.

14. A skeleton and skin of this species is kept at the Museo del Departamento de Zoología (MZUC) of the University of Concepción (Ruiz and Oyarzo 1987). The dolphin, a 194 cm male, became accidentally entangled in nets set by local fishermen in Bahía de Concepción (36° 42′S, 73° 02′W) in 1983 (V. H. Ruiz, in litt., 21 October 1989). Photographs of the skeleton, kindly provided by V. H. Ruiz, demonstrate that the specimen was not physically mature.

15. An adult right whale dolphin stranded on the beach of Burca (36° 28′S, 72° 55′W) in 1984 was examined for parasites (Fernandez 1987). No other information is available.

16. A complete skull of a physically mature animal was collected by Henry Camera on the beach of Matanzas (33° 58′S, 71° 55′W), in February 1986. The skull is deposited at the laboratory for marine mammals, Museo Nacional de Historia Natural (MNHN), Santiago.

17. A slightly damaged calvarium of an adult dolphin was picked up from the beach of Cachinales (25° 10′S) by C. Guerra in July 1986 and was identified by the senior author. It is kept at the Instituto de Investigaciones Oceanológicas of the University of Antofagasta, under no. AMM-019 (C. Guerra, unpublished data).

18. and 19. Between 16 and 28 August 1986, observations of cetaceans were made off northern Chile by KVW on board the high sea purse-seiner Guanaye operating out of Mejillones. On the six cruises total observation time was 57 hours 55 minutes in the area 22° to 24°S and the coast to 150 km offshore (see VAN WAEREBEEK and GUERRA 1987). On 27 August 1986 (08:30 h) at 23° 46′S, 71° 25′W some 200 right whale dolphins were observed travelling north at high speed, accompanied by a small number of common dolphins (*Delphinus delphis*) and seabirds. Video and still photographs were taken. Later the same day (11:20 h), at 23° 31′S, 71° 00′W, a very dispersed herd of 30–50 right whale dolphins, also going north, was photographed. The dolphins changed direction upon approach (VAN WAEREBEEK and GUERRA 1987).

20. and 21. The captain of the Guanaye, ENRIQUE GARCIA, made video recordings of two groups of right whale dolphins off northern Chile (Antofagasta) as follows: 20–30 specimens at 23° 30′S, 71° 02′W on 30 August 1986; and 200–250 animals at 24° 00′S, 70° 50′W on 29 August 1986. The identifications were confirmed by the senior author (in GUERRA et al. 1987).

22. On 23 November 1987, JUAN C. TORRES found the carcass of a young right whale dolphin on a beach of Isla Guafo, a small island south of Chiloé (43° 37′S, 74° 40′W). The difficult access to the beach permitted him to collect only the calvarium, which is at the Museo Nacional de Historia Natural, Santiago (MNHN 1155).

23. A 218 cm, pregnant female in fresh condition, stranded on the beach of Mehuín (39° 26′S) on 11 November 1987. No signs of a fishery interaction could be discerned on the carcass. J. A. OPORTO collected and deep-froze the specimen (JAO–041) for further study at CIMMA, Universidad Austral de Chile, Valdivia. Preliminary results of the necropsy are discussed by VAN WAEREBEEK and OPORTO (1990).

24. On 27 June 1988, JGV found a 261 cm male right whale dolphin stranded relatively fresh near the mouth of the Copiapó river (27° 20′S, 71° 00′W). Photographs were deposited at MNHN (Santiago), but it was not possible to save the carcass.

25. On 21 July 1988, a 198 cm female was accidentally captured in a gill net some 20 nautical miles off Matarani (16° 57′S) in southern Peru (LAZARTE and VALDIVIA 1988). The skull is at the Instituto de Investigación y Desarrollo Hidrobiológico of Catarindo (Mollendo). This was the first record of the right whale dolphin for Peruvian waters.

26. A group of about 400 southern right whale dolphins was photographed by JACK GROVE (pers. comm.) on 16 November 1988 at 33° 03′S, 72° 33′W on board the M. V. Society Explorer. When encountered, the dolphins were heading south and apparently were feeding on densely schooling fish, as judged from the prey's jumping behaviour. No calves were seen, but common dolphins were mixed in the main group (JEFFERSON et al. 1991). The water temperature was 14 °C, water depth 5,000 m.

27. A 250.5 cm sexually mature male was landed by artisanal fishermen at Pucusana (12° 30′S), central Peru, on 15 November 1989. The specimen had drowned only hours earlier in a drift gill net. Skeletal and soft tissues were sampled by the senior author and included in the CEPEC collection (KVW-1857). Information on its stomach contents and parasites are reported in VAN WAEREBEEK and OPORTO (1990). The exact catch locality is unknown; however, local fishermen are known to operate usually well within 60–100 km of port. This record, the second for Peru, extends the known range of the species 5° north in the Southeast Pacific and the world. One fisherman, regarded as a reliable source, claimed that another specimen of this species had been brought into the port of Callao (12° 03°S), Peru, a month earlier. However, without proof the latter report must be classified as "unconfirmed".

28. A disarticulated but complete skeleton of an animal of unknown sex was collected from Playa Mamani (29° 03′S), north of Coquimbo, in late January 1990 (J. GIBBONS, pers. comm.).

29. J. GONZALEZ found a posterior tail stock and flukes (span: 36.5 cm) of a specimen

on the beach of Carrizal Bajo (28° 05′ S), relatively fresh, in the summer of 1990. From cut marks it was evident that the tail had been severed by fishermen. Identification was based on the contrasting black/white pattern on both sides of the flukes, and the shape of the latter. The specimen and two photographs are at MNHN (Santiago).

30. An adult male of unkown length was caught in a drift gill net set some 90 nautical miles west of San Antonio (33° 35′ S), for swordfish (*Xiphias gladius*), on 8 July 1990. Meat of the animal was consumed by the fishermen. One of us (JLB) took photographs and saved the skull, which are kept as voucher material at the Museo Municipal de San Antonio (MMSA-CE-12). Reyes and Brito (1990) describe trematodes, *Nasitrema* sp., from the cranial sinuses; these same trematodes also had been found in the first specimen from central Peru (van Waerebeek and Oporto 1990).

31. On 17 August 1990 the remains of a male, measuring a minimum of 230 cm (the tail was missing), were found on a beach close to the artisanal fish terminal of San Antonio, Chile. The dorsal musculature had been removed for human consumption. It was learned that the animal had been caught 120 nautical miles west of Quintero (32° 46′ S) in a gill net set for swordfish. The stomach contents included unidentified otoliths and remains of cephalopods and decapod crustaceans. The skeleton and other biological material are at the collection of the Museo Municipal de San Antonio (MMSA-CE-13).

32. A 271 cm, sexually mature male was caught in a gill net and landed by artisanal fishermen at the Pucusana fish terminal, central Peru, on 8 September 1990. Soft tissues and skeleton, collected by J. C. Reyes and M.-F. van Bressem, were incorporated in the CEPEC collection under number JCR-1800 (Reyes, pers. comm.).

33. The complete carcass of a male (length unknown), in an early state of decomposition, was found by Jaime Lama on the beach of Punto Viejo (27° 21′ S) on 19 September 1990. It was noted that several dead Humboldt penguins (*Spheniscus humboldtii*) had also washed up in the vicinity, suggesting all were killed in a gill net fishery. The specimen was lost, but a voucher photograph is at MNHN, Santiago.

34. J. Capella and Y. Vilina examined the remains of a 297 cm male stranded on the beach of Caleta Chañaral (26° 21′ S), during the first week of October 1990. No material was collected, but photographs were deposited in the files of the National Museum in Santiago.

35. On 3 February 1990, observers aboard the M/S World Discoverer encountered a large herd (ca. 800–1200 animals) in 360 m of water southwest of Peninsula Taitao, Aisén (46° 12′ S, 74° 29′ W). Several small groups of right whale dolphins were traveling on the perimeter of the herd and came to the bow of the vessel to ride its bow wave. At least two very small calves were present (S. Leatherwood, in litt. June 1991).

36. Claudio Rivera, captain of the purse seiner Kofuko-Maru, observed a large group (ca. 1000 animals) of right whale dolphins, 70–80 nautical miles offshore between San Antonio (33° 35′ S) and Pichilemu (34° 24′ S) in Juni 1983. The animals were heading east. Photographs are deposited at the Museo Municipal de San Antonio.

Discussion

Misidentifications

Based on an account by Reed (1904), Donoso-Barros (1975), cited in Sielfeld (1983), refers to the Bay of Concepción (± 37°S) as a record locality for right whale dolphins. A careful reading of Reed's paper, however, reveals that the dolphin in question had a 12 cm high dorsal fin; the specimen has been correctly reidentified by Goodall et al. (1988) as a Chilean dolphin, *Cephalorhynchus eutropia*.

Another skull believed to have originated from Concepción, Chile (Cruickshank and Brown 1981), but with no other data than a label with "Baie de la Conception", is at the

Paris Museum d'Histoire Naturelle (MNHN-1928.195). However, as the aforementioned authors admit, that specimen may have been collected at Conception Bay, Namibia (23° 55′S, 14° 13′E). New evidence from Findlay (1989) and Rose and Payne (1991), who identified the area as a concentration zone for right whale dolphins, lends substantial support to this possibility. Until more information becomes available we classify this skull as incertae sedis.

The type specimen of *Tursio chiloensis* Philippi, 1900 based on a calvarium from Ancud (41° 53′S, 73° 48′W), Chiloé, was long put into synonymy with *L. peronii* (Hershkovitz 1966; Donoso-Barros 1975; Sielfeld 1983). Our own observations on the specimen, at the Santiago Natural History Museum, are in agreement with Goodall (1986), who reassigned it to Peale's dolphin (*Lagenorhynchus australis*).

Abundance

There are no world population estimates available, nor have separate stocks been described (Jefferson and Leatherwood 1990). The abundance of right whale dolphins off Chile has been characterized from "very rare" (Yañez 1948) to "common along the entire coastline [of the Province of Concepción]" (Oliver-Schneider 1946). Also they have been reported to occur with some regularity off southern South America, especially around Cape Horn (Bennett 1840; d'Orbigny and Gervais 1847; Brownell 1974). During shipboard surveys off northern Chile in August 1986, right whale dolphins were the second most commonly observed cetacean after the dusky dolphin, *Lagenorhynchus obscurus* (van Waerebeek and Guerra 1987; see sightings # 18–21). Mean group size during these and other observations in the study region was 368 (SE = 111; range 20–1,000; N = 10). Also, the rapid accumulation of new stranding records in recent years, admittedly thanks to increased research effort, indicates that right whale dolphins are not rare in the region. However, studies to assess absolute population densities have not been made and even approximate estimates can not be given. The need for such research is urgent since recent data suggest a considerable and possibly increasing fishery mortality. The rapid development of a swordfish gill net fishery off central Chile is particularly alarming (Reyes and Oporto 1990).

Habitat

Southern right whale dolphins are typically pelagic and found close to shore only in deep water (Brownell 1974; Jefferson and Leatherwood 1990). The confusion about Aguayo's (1975) characterization of this species off Chile as "pelagic and coastal" (see: Leatherwood and Reeves 1983; Cruickshank and Brown 1981) is in our opinion but a semantic one. At the sites where southern right whale dolphins were seen inshore ("coastal"), the continental shelf is very narrow and the habitat oceanic, which is the case for most of the Chilean coast north of Valparaiso. Similarly, after examining several so-called "inshore" sightings in the Southeast Atlantic and southern Indian Oceans, Cruickshank and Brown (1981) concluded that *L. peronii* should be considered a deep-water species.

Goodall (1978, 1989) believes that right whale dolphins may occasionally enter shallow waters; she has found beached specimens, though none fresh, in the channels of Tierra del Fuego. We are not aware of any sightings to confirm this contention.

During the 672 observation hours and 2,597 nautical miles of a boat survey for cetaceans through the channels between Puerto Montt and Punta Arenas (Regions Aisén and Magallanes), 29 sightings were made of six small cetacean species, but none of the right whale dolphin (Oporto 1984). Several other boat and aerial surveys in the region (Sielfeld and Venegas 1978; Leatherwood et al. 1988) and extensive shipboard surveying in shelf-water (less than 200 m) around Chiloé, off western Magallanes and in

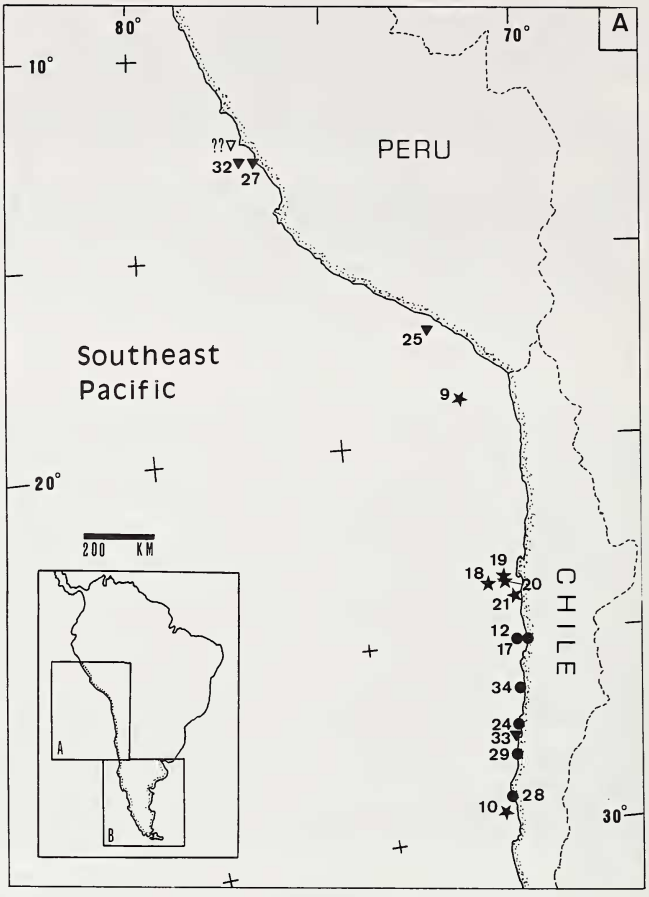

Fig. 1A

the Strait of Magellan (A. C. Lescrauwaet, pers. comm.) neither yielded a single sighting of right whale dolphin. The absence of right whale dolphins among the remains of eight small cetacean species discovered in an archaeological site near Ushuaia (54° 47′S, 68° 20′W), on the northern shore of the Beagle Channel (Piana et al. 1986), further reinforces our feeling that under normal circumstances this species avoids shallow water. Probably individuals enter Fuegian channels only accidentally or when unhealthy; these are likely to strand due to the unfamiliar environment, which in turn could help explain the skeletal material found by Goodall (1989).

The three published specimen records of right whale dolphins registered from Chilean Magallanes originated from Bahías Posesión and Lomas at the eastern entrance of the Strait of Magellan (Venegas and Sielfeld 1978; Sielfeld 1983). Based on geographical considerations, there is little doubt that the specimens came from the Southwest Atlantic, which falls outside the scope of the present paper.

Seasonal movements

So far migrations or seasonal movements have not been described for this species (Jefferson and Leatherwood 1990). The seasonality of sightings, captures and strand-

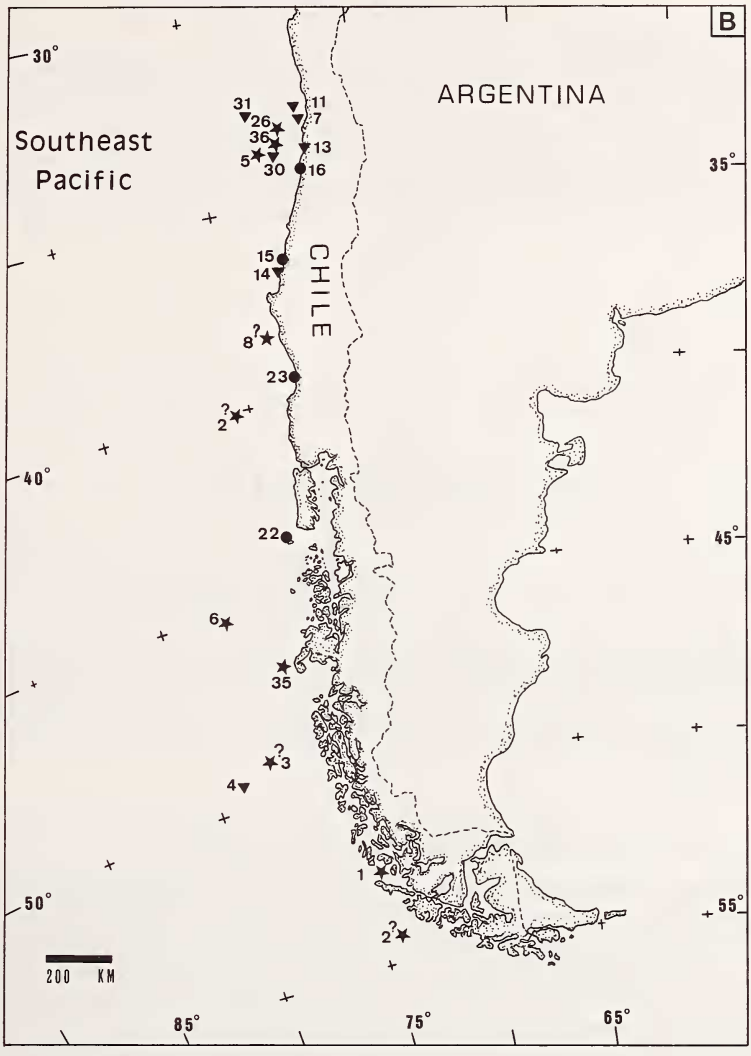

Fig. 1. Distribution of southern right whale dolphin off the coasts of Peru [A] and Chile [A, B], as indicated by documented records from 1823–1990 including sightings (⋆), animals caught in fishing gear (▾) and stranded specimens (●). Numbers concur with these in the list of records. A question mark indicates that the location of the record is only approximately known; a double question mark represents an unconfirmed record

ings of fresh specimens off the Pacific coast of South America (n = 24) is shown in Fig. 2. Although the sample size is small, significantly more records were registered north of 25°S in July–September than in all other months combined (chi-square, $p < 0.05$, $N = 8$). This suggests that at least part of the Chilean population may undertake a northbound migration in the austral winter and spring when cool coastal upwelling and the coastal component of the cold Humboldt Current (Fiords Current) are strongest (Bernal et al. 1982; Brink et al. 1983). Five of the six specimens examined from north of 30°S were

males; however, more data will be needed to determine whether males are more likely to move into northern waters.

Between 25° and 40°S off the Chilean coast, right whale dolphins are present year-round. Sightings made south of 40°S are limited to summer months, which we believe is related more to observer's seasonality than to dolphin's occurrence.

Year-round boat or aerial surveys will be needed to clearly establish seasonal movements. If firm evidence of migration becomes available, it will bear implications for the species' conservation, calling for management measures on a regional rather than national level.

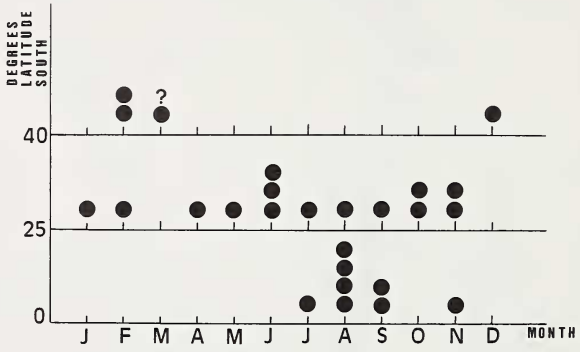

Fig. 2. Monthly pattern of confirmed sightings and records of captured and freshly stranded specimens of southern right whale dolphin, in function of latitude (in degrees) along the Pacific coast of South America. Note the concentration of records in austral winter and spring at low latitudes. Late summer record (# 1) from Lesson and Garnot (1826) is assumed to have occurred in March and is indicated by a question mark

Distribution centres and boundaries

The occurrence of small cetaceans off Peru was intensively studied in the period 1985–1990 through monitoring of cetacean landings at fishing ports and surveying of beaches and fish dumps (Read et al. 1987; van Waerebeek et al. 1988; van Waerebeek and Reyes 1990). Until today, only three southern right whale dolphins are known from Peru, two of these encountered at Pucusana (# 27, # 32). The latter, from 12° 30′S, represent the most northern records of southern right whale dolphin in the SE Pacific and worldwide.

It is not yet clear whether right whale dolphins are more than an occasional winter visitor to central Peruvian waters. Both Pucusana specimens, although heavily parasitized, seemed to be in good health; otoliths in the stomach of one (#27) indicated that it had been feeding extensively on anchoveta (van Waerebeek and Oporto 1990).

All sightings north of 40°S lie within a strip ca 170 km from shore. It is reasonable to expect that the western distribution barrier is formed by the rapidly increasing temperatures of the eastern subtropical Pacific, beyond the cold waters of the Humboldt Current 300–400 km offshore (Bernal et al. 1982). Off southern Chile right whale dolphins have been seen up to 250 km offshore where their distribution broaden to merge with the subantarctic waters of the circumpolar West Wind Drift. The southern boundary south of Cape Horn is currently set at ca 57°S (Drake Passage) where a small group was sighted by Kasamatsu et al. (1990).

Data do not yet permit one to identify distribution centre(s) because of the highly uneven observer effort in different areas. The apparent concentration of records around Antofagasta and off Valparaíso doubtless reflects a higher density of observers.

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Zusammenfassung

Das Vorkommen des südlichen Glattdelphins Lissodelphis peronii vor der Pazifik-Küste von Südamerika

Verbreitung und Zugverhalten des südlichen Glattdelphins (*Lissodelphis peronii*) wurden vor der Westküste Südamerikas erforscht. Angegeben werden eine chronologische Liste und eine Karte von 36 bestätigten Beobachtungen zwischen 1823 und 1990, von denen fast die Hälfte bisher unveröffentlicht waren. Die Beobachtungen aus Beifang, Strandungen und Sichtungen wurden nur als gültig angesehen, wenn verbürgtes Material vorlag. Eine erste Durchsicht des Daten zeigt, daß *L. peronii* zu den häufigsten Cetaceen vor der nordchilenischen Küste gehören könnte. Die durchschnittliche Größe der Schulen beträgt 368 Exemplare. Allerdings nimmt das Verfangen in Netzen alarmierend zu. Abschätzungen über Populationsdichte und Mortalität durch Fischerei sind dringend nötig. Das normale Habitat von *L. peronii* vor Südamerika scheint streng pelagisch. Zwei bei Pucusana (12° 30′ S) gefangene Exemplare erweitern die bisher bekannte Verbreitung um 5° nach Norden und stellen für Peru die zweite und dritte Beobachtung dar. Nördlich von 25° S wurden von Juli bis September mehr Beobachtungen gemacht als in allen anderen Monaten zusammen, was ein Ausweichen nach Norden im Südwinter/Frühjahr nahelegt. Vor Chile kommt *L. peronii* zwischen 25° S und 40° S ganzjährig vor. Die gegenwärtigen Westgrenzen der Verbreitung liegen nördlich von 40° S 170 km vom Festland und 250 km vor der südchilenischen Küste. Im Bereich der Westwindzonen gehen sie in eine zirkumpolare Verbreitung über.

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